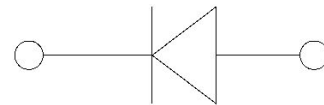
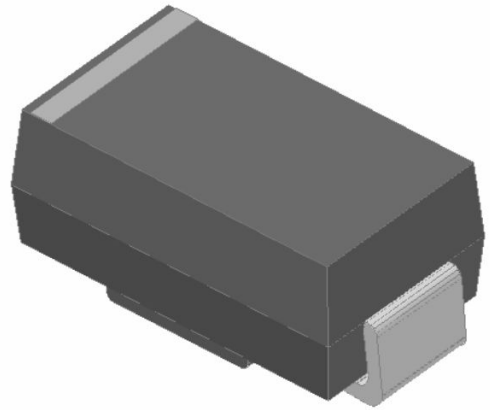


SMA5919B THRU SMA5945B

1.5W SURFACE MOUNT POWER ZENER DIODE

■ Features

- 1.5W Power Dissipation
- Ideally Suited for Automated Assembly
- 5.6V - 68V Nominal Zener Voltage Range
- Standard VZ Tolerance is $\pm 5\%$
- ESD Rating of Class 3 ($>8kV$) per Human Body Model
- Lead-Free Finish; RoHS Compliant



■ Mechanical Data

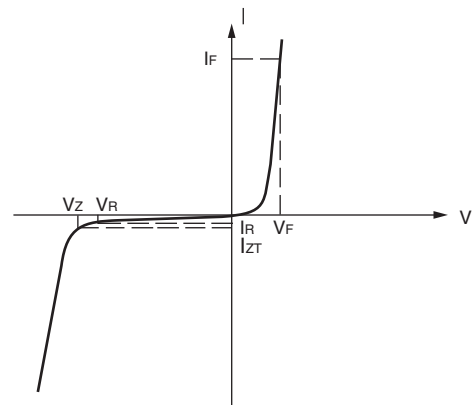
- Case: SMA
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Copper Alloy Leadframe with Lead-Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band

MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Maximum steady state power dissipation at $T_L = 75\text{ }^\circ\text{C}$ (fig. 1) ⁽¹⁾	P_{tot}	1500	mW
Maximum steady state power dissipation at $T_A = 25\text{ }^\circ\text{C}$ (fig. 1) ⁽²⁾	P_{tot}	500	mW
Maximum instantaneous forward voltage at 200 mA for all types ⁽³⁾	V_F	1.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Notes

- (1) Mounted on PCB with 5.0 mm x 5.0 mm copper pads attached to each terminal
 (2) Mounted on minimum recommended pad layout
 (3) Pulse test: 300 μs pulse width, 1 % duty cycle

ELECTRICAL CHARACTERISTICS	
SYMBOL	PARAMETER
V_Z	Reverse Zener voltage at I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener impedance at I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum Zener impedance at I_{ZK}
I_R	Reverse leakage current at V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage at I_F
I_{ZM}	Maximum DC Zener current



Zener Voltage Regulator



SMA5919B THRU SMA5945B

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)											
PART NUMBER	DEVICE MARKING CODE	ZENER VOLTAGE RANGE			TEST CURRENT		MAXIMUM ZENER IMPEDANCE		REVERSE LEAKAGE CURRENT		MAXIMUM ZENER CURRENT
		V_Z AT I_{ZT}			I_{ZT}	I_{ZK}	Z_{ZT} AT I_{ZT}	Z_{ZK} AT I_{ZK}	I_R AT V_R		I_{ZM}
		V			mA		Ω		μA	V	mA
		MIN.	NOM.	MAX.			MAX.	MAX.	MAX.		MAX.
SMA5919B	19B	5.32	5.6	5.88	66.9	1.0	5.0	700	200	3.0	268
SMA5920B	20B	5.89	6.2	6.51	60.5	1.0	2.0	700	200	4.0	242
SMA5921B	21B	6.46	6.8	7.14	55.1	1.0	2.5	400	200	5.2	221
SMA5923B	23B	7.79	8.2	8.61	45.7	0.5	5.0	700	10	6.5	183
SMA5924B	24B	8.64	9.1	9.56	41.2	0.5	5.0	700	10	7.0	165
SMA5925B	25B	9.5	10	10.5	37.5	0.25	5.0	700	10	8.0	150
SMA5926B	26B	10.5	11	11.6	34.1	0.25	5.5	550	5	8.4	136
SMA5927B	27B	11.4	12	12.6	31.2	0.25	6.5	550	1	9.1	125
SMA5928B	28B	12.4	13	13.7	28.8	0.25	7.0	550	1	9.9	115
SMA5929B	29B	14.3	15	15.8	25.0	0.25	9.0	600	1	11.4	100
SMA5930B	30B	15.2	16	16.8	23.4	0.25	10	600	1	12.2	94
SMA5931B	31B	17.1	18	18.9	20.8	0.25	12	650	1	13.7	83
SMA5932B	32B	19.0	20	21.0	18.7	0.25	14	650	1	15.2	75
SMA5933B	33B	20.9	22	23.1	17.0	0.25	17.5	650	1	16.7	68
SMA5934B	34B	22.8	24	25.2	15.6	0.25	19	700	1	18.2	62
SMA5935B	35B	25.7	27	28.4	13.9	0.25	23	700	1	20.6	56
SMA5936B	36B	28.5	30	31.5	12.5	0.25	28	750	1	22.8	50
SMA5937B	37B	31.4	33	34.7	11.4	0.25	33	800	1	25.1	45
SMA5938B	38B	34.2	36	37.8	10.4	0.25	38	850	1	27.4	42
SMA5939B	39B	37.1	39	41.0	9.6	0.25	45	900	1	29.7	38
SMA5940B	40B	40.9	43	45.2	8.7	0.25	53	950	1	32.7	35
SMA5941B	41B	44.65	47	49.35	8.0	0.25	67	1000	1	35.8	32
SMA5942B	42B	48.45	51	53.55	7.3	0.25	70	1100	1	38.8	29
SMA5943B	43B	53.2	56	58.8	6.7	0.25	86	1300	1	42.6	27
SMA5944B	44B	58.9	62	65.1	6.0	0.25	100	1500	1	47.1	24
SMA5945B	45B	64.6	68	71.4	5.5	0.25	120	1700	1	51.7	22

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	LIMIT	UNIT
Typical thermal resistance, junction to lead	$R_{\theta JL}$ ⁽¹⁾	50	$^\circ\text{C/W}$
Typical thermal resistance, junction to ambient	$R_{\theta JA}$ ⁽²⁾	250	$^\circ\text{C/W}$

Notes

- (1) Mounted on PCB with 5.0 mm x 5.0 mm copper pads attached to each terminal
- (2) Mounted on minimum recommended pad layout



■ **Characteristics(Typical)**

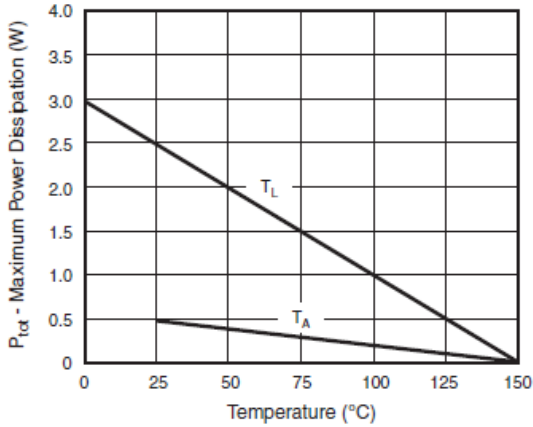


Fig. 1 - Steady State Power Derating

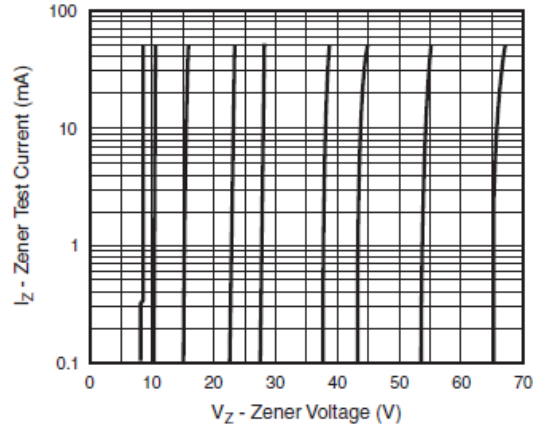


Fig. 3 - Typical Zener Voltage

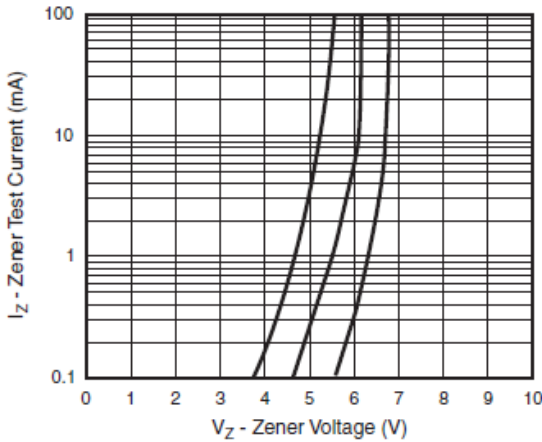


Fig. 2 - Typical Zener Voltage

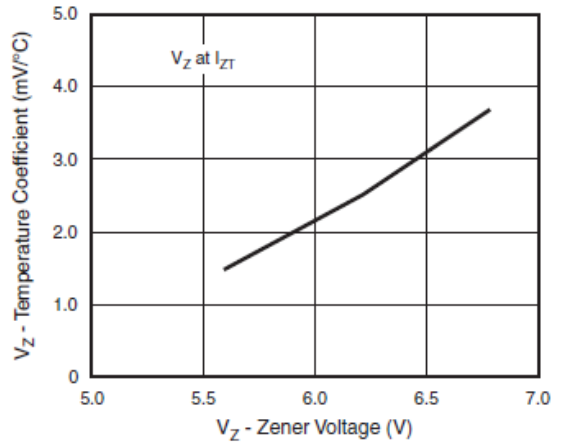


Fig. 4 - Typical Temperature Coefficients

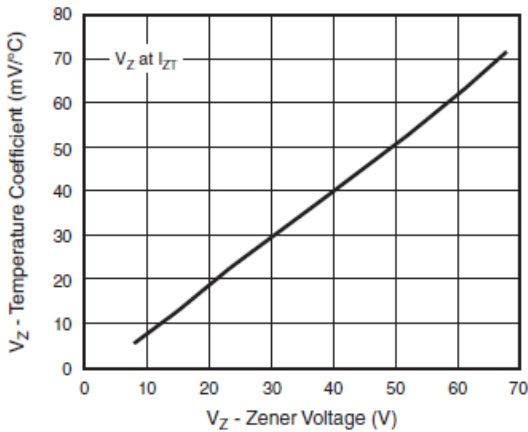


Fig. 5 - Typical Temperature Coefficients

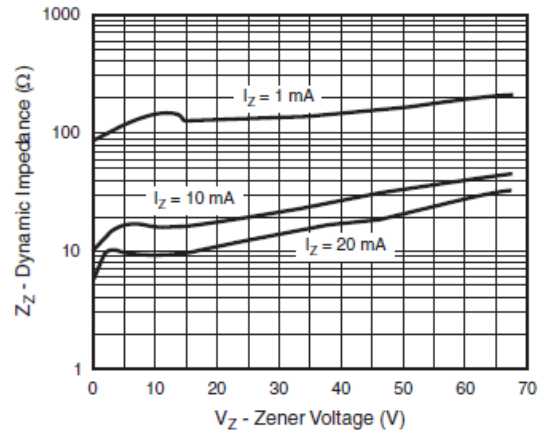


Fig. 7 - Typical Zener Impedance

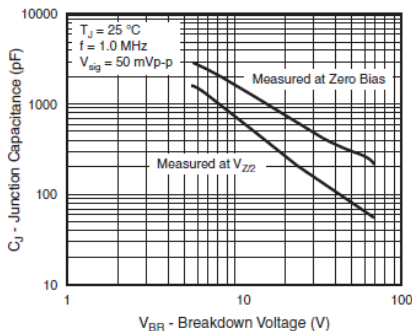


Fig. 6 - Typical Junction Capacitance



SMA5919B THRU SMA5945B

■ Ordering Information (Example)

PREFERED	PACKAGE CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMA59 series	SMA	5000	10000	80000	13" reel

■ Outline Dimensions

